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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,202	10/31/2000	Steve J. Shattil	WIM 00 1	3524
7590	05/20/2004		EXAMINER LEUNG, CHRISTINA Y	
Steve J. Shattil 4980 Meredith Way #201 Boulder, CO 80303			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,202

Applicant(s)

SHATTIL, STEVE J.

Examiner

Christina Y. Leung

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-123 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-11 and 13-123 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Introductory Comments

1. Applicant's traversal in Paper No. 7 of the previously made requirement for restriction (Paper No. 6) is acknowledged. Applicant noted that since independent claims have been indicated allowable, the addition of dependent claims should not constitute a need for a restriction requirement.

However, this Restriction Requirement is made in view of all the pending claims (claims 1-11 and 12-123), and does not merely result from the addition of dependent claims 33-123. Examiner respectfully adds that a restriction requirement may be made at any stage of prosecution up to final action, even when a prior requirement was already made (see MPEP § 811, 811.02, and 811.03). Furthermore, Examiner respectfully notes that the indicated allowability of at least some of the original independent claims will be withdrawn in view of newly discovered references.

Although no rejections are given in this Restriction Requirement, Examiner hereby cites by way of example two references that appear to be directed to and may anticipate and/or suggest at least some of Applicant's claims.

Tang (US 5,016,242 A) generally discloses a transmitter for waveguide communication (Figure 1) that is related to the subject matter recited in Applicant's claim 1, including a generator 100 capable of generating a plurality of carrier signals, an information signal modulator 120 capable of modulating the carrier signals, and a coupler 160 capable of coupling the modulated carrier signals into a communication channel.

Thompson et al. (US 5,191,459 A) generally disclose a receiver system (Figure 3) that is related to the subject matter recited in Applicant's claim 5, including a phase adjuster (converters 54 and 55), a combiner (including elements 69 and 70), and further receiver elements capable of processing the combined signals (including elements 71, 72, etc.)

Examiner respectfully emphasizes that the comments above do not currently constitute an actual rejection of the mentioned claims but are provided to support the reasoning behind this current Restriction Requirement. The references cited above are provided only as examples, and Examiner respectfully notes that a future Office Action may rely on additional or even different references and may include rejections of claims beyond those specifically referred to above.

Examiner also acknowledges Applicant's own suggested division of claims given in Paper No. 7. However, the Restriction Requirement below outlines a different grouping of the claims. Examiner respectfully adds that an explanation of the groupings follows.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. **Claims 1-4; 11 and 33-39; 13 and 40-48; 19 and 65-79; 20 and 80-81; and 30 and 110-118**, drawn to a multicarrier transmitter and a multicarrier signal generator, classified in class 398, subclass 76.
 - II. **Claims 5-8; 16 and 49-56; 17; 18 and 57-64; 22 and 82-83; 23 and 84-87; 24; 25; 26; 27 and 88-95; 28 and 96-99; 29 and 100-109; and 31 and 119-123** drawn to a receiver, classified in class 398, subclass 202.
 - III. **Claims 9, 10, 14, and 15**, drawn to virtual switching and addressing a signal in a waveguide, classified in class 398, subclass 166.

IV. Claim **21**, drawn to communication system including a cancellation channel, classified in class 375, subclass 144.

V. Claim **32**, drawn to a feedback method in a communication system, classified in class 375, subclass 358.

3. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as a transmitter in a system that does not require the receiver having the specific details of invention II. Likewise, invention II has separate utility such as a receiver that has may receive signals from a transmitter that does not have the specific details of invention I. See MPEP § 806.05(d).

Inventions III, IV, and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions directed to virtual switching, a cancellation channel, and feedback each include different modes of operation and different functions (such as providing a phase relationship that defines an address; providing a channel reuse by canceling interfering signals; and optimizing signal quality, respectively) that are distinct from each other.

Inventions III, IV, and V; and inventions I and II are related to each other as combinations and subcombinations, respectively (i.e., inventions III, IV, and V are combinations, and inventions I and II are subcombinations). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the

subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combinations as claimed do not require the particulars of the subcombinations as claimed because the systems/methods directed to virtual switching, a cancellation channel, and a feedback method as recited in inventions II, IV, and V may be implemented with transmitting and receiving systems that do not necessarily have the details of the transmitting system recited as invention I or the receiving system recited as invention II. The subcombinations have separate utility such as transmitting or receiving systems that do not necessarily include virtual switching, a cancellation channel, or feedback.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for each of Groups I, II, III, IV, and V is not required for the others, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

7. Furthermore, Examiner notes that this application contains claims directed to the following patentably distinct species of Invention II:

Embodiment 1, directed to Figure 3G (a receiver and a reception method including a phase adjuster);

Embodiment 2, directed to Figures 27 and 28A-B (a receiver and a reception method including an information signal and an interfering signal).

Should Applicant elect Invention II, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement (if Invention II is elected) must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. Although Applicant must identify the claims readable on the elected species of Invention II, Examiner respectfully suggests that claims 5-8; 16 and 49-56; and 18 and 57-64 appear to read on Embodiment 1, and claims 17; 22 and 82-83; 23 and 84-87; 24; 25; 26; 27 and 88-95; 28 and 96-99; 29 and 100-109; 31 and 119-123 appear to read on Embodiment 2. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, Applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the

Art Unit: 2633

examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

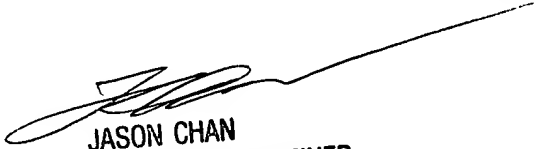
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 703-605-1186. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600